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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/748,696 | 12/30/2003 | Osama Khouri | 02AG231 (53423) | 2007 |
| 27975 | 7590 | 08/12/2005 | EXAMINER | |
| ALLEN, DYER, DOPPELT, MILBRATH & GILCHRIST P.A. 1401 CITRUS CENTER 255 SOUTH ORANGE AVENUE P.O. BOX 3791 ORLANDO, FL 32802-3791 | | | MAI, SON LUU | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2827 | |

DATE MAILED: 08/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/748,696

Applicant(s)

KHOURI ET AL.

Examiner

Son L. Mai

Art Unit

2827

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 01-23-04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

1. Papers filed 12-30-03, 03-25-04 and 05-14-04 have been entered. Claims 1-12 have been canceled and claims 13-34 have been added and pending in the application.

Priority

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

3. The information disclosure statement filed 01-23-04 has been considered.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claim 27 recites the limitations "the device" in line 4 and "the defective sector" in line 7. There are insufficient antecedent bases for these limitations in the claim.
6. Claim 31 recites the limitation "the device" in line 4. There is insufficient antecedent basis for this limitation in the claim. It appears that the device refers to the non-volatile memory. If so, "a non-volatile memory" in line 1 should read --a non-volatile memory device--.
7. Claims 28-30 and 32-34 are rejected for including the limitations of claims 27 and 31 respectively.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 2827

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 13-34 are rejected under 35 U.S.C. 102(b) as being anticipated by Gray (U.S. Patent 6,484,271).

Regarding claim 13, Gray teaches a non-volatile memory device (see column 9, lines 5-20) comprising: a memory cell matrix including a plurality of sectors (40, 50 and 60 of figure 1); and a remapping circuit (see figure 3) for remapping defective sectors (LOC B (BAD)) of the memory cell matrix, defective sectors comprising sectors having at least one defective cell, the remapping circuit comprising: first memory elements (80) containing defective sector addresses, and corresponding second memory elements (70) containing replacement sector addresses.

Regarding claim 14, Gray discloses the remapping circuit (figure 3) comprises a content addressable memory (CAM) unit (element 80).

Regarding claim 15, Gray teaches the memory device comprising a multiplexer unit (190 in figure 4) connected downstream from and in data communication with said CAM unit.

Regarding claim 16, Gray teaches the non-volatile memory device wherein the multiplexer unit (190 in figure 4) is associated to and in data communication with the memory cell matrix.

Regarding claim 17, Gray teaches the non-volatile memory device wherein said CAM unit comprises a non-volatile memory (see column 9, lines 5-20).

Regarding claim 18, Gray teaches the non-volatile memory device wherein said CAM unit comprises a volatile memory (see column 9, lines 5-20).

Regarding claim 19, Gray teaches the non-volatile memory device according to Claim 13, wherein the plurality of sectors (sectors 40, 50 and 60 of figure 1) comprises a higher number of sectors than a nominal capacity (sectors 40 and 50) of the memory device.

Regarding claims 20-26, the claims include similar limitations as of claims 13-19 and are also rejected under 35 U.S.C. 102(b) as being anticipated by Gray.

Regarding claim 27, Gray discloses a method for restoring a non-volatile memory including a memory cell matrix having memory cells divided into a plurality of sectors. The method comprises: detecting defective sectors of the device (see col. 5, lines 3-5), the defective sectors (LOC B in figure 3) comprising sectors having at least one defective memory cell; storing an address of the defective sector (see col. 5, lines 10-14); and providing a pre-programmed address of a replacement sector to replace the defective sector with the replacement sector among the plurality of sectors of the memory cell matrix (see col. 5, lines 20-26).

Regarding claim 28, Gray teaches a step of detecting a defective sector comprises detecting with a sector remapping circuit (in figure 3).

Regarding claim 29, Gray teaches that the sector remapping circuit (figure 3) comprises a content addressable memory (CAM) unit (80 in figure 2).

Regarding claims 31-34, the claims include similar limitations as of claims 27-30 and are also rejected under 35 U.S.C. 102(b) as being anticipated by Gray.

Conclusion


10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The references to Harari, Jeddeloh, Shaffer, Douceur, Zhu, Conley, Klein and Dean cited on Form PTO-892 disclose methods and circuits for remapping defective memory sectors to non-defective memory sectors.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Son L. Mai whose telephone number is 571-272-1786. The examiner can normally be reached on 8am to 6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms can be reached on 571-272-1787. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

08-10-05


Son L. Mai
Primary Examiner
Art Unit 2827